REMARKS/ARGUMENTS

Claims 1-27 are presented for reconsideration.

By way of the Office Action mailed December 11, 2003, claims 1 – 27 were rejected under 35 U.S.C. § 103 as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over U.S. patent number 4,735,682 to Didwania et al. (hereinafter referred to as Didwania et al.) in view of WO 96/06222 to Milding et al. (hereinafter referred to as Milding et al.). This rejection is respectfully **traversed** to the extent that it may apply to the presently presented claims.

Independent claim 1 of the present invention is directed to a method of recycling bonded fibrous materials, the method comprising: i) providing pieces of bonded fibrous materials comprising synthetic fibrous material, the pieces having sizes that are adapted for suspension in a liquid; ii) suspending the discrete pieces of bonded fibrous materials in a liquid; iii) applying mechanical work to the liquid suspension of discrete pieces to generate hydraulic pressure and mechanical shear stress conditions sufficient to hydraulically fragment the bonded fibrous materials into fibers and fiber-like components; and iv) separating substantially individual fibers and fiber-like components from the liquid. Independent claim 17 is directed to recycled synthetic fibers and fiber-like materials comprising at least one thread element composed of synthetic material having at least one irregular distortion generated by hydraulic fracture of the thread element to separate it from a bonded fibrous material while the bonded fibrous material is suspended in a liquid.

Didwania et al. discloses a method of separating cellulosic fibers from latex bonded paper broke (column 1, lines 8-10). The method includes the steps of shredding the latex bonded paper broke, pulping the broke in an aqueous alkaline solution, and deflaking the pulp to form cellulosic fibers with latex solids remaining attached thereto (column 2, lines 28-68). Didwania et al. describes the difficulties encountered when using conventional methods for repulping latex bonded broke (column 1, lines 37-50). For example, excessive mechanical action requires excessive energy use and results in loss of usable fibers. Excessive chemical treatment causes separation of the latex from the cellulosic fibers and subsequent processing problems. Thus, the method taught by Didwania et al. apparently employs the simultaneous combination of mild

chemical treatment and mild mechanical treatment that breaks the latex bonds followed by deflaking that separates the cellulosic fibers from one another. In Example 1, latex bonded broke was repulped in 1.5 mol percent sodium hydroxide resulting in approximately 20 weight percent fiberization (column 3, lines 14-23). Inclusion of the deflaking step in Example 2 resulted in about 90 percent fiberization (column 3, lines 24-30) without separation of the latex from the fibers (column 3, lines 31-45). Thus, Didwania et al. teaches a specific treatment method designed for recycling latex bonded paper broke. Because its teaching is so narrowly focused, Didwania et al. provides no suggestion or motivation for one skilled in the art to extend the teaching thereof to raw materials other than latex bonded paper broke.

Milding et al. discloses a nonwoven material produced by hydroentangling a fiber web including recycled fibers that are mechanically freed from nonwoven waste (abstract). Milding et al. teaches that the recycled fibers can be recycled by mechanical shredding of the waste, whereby the material is cut into small bits that, with the help of spiked rollers, are torn up so that the fibers are freed (page 3, lines 18-21). Milding et al. does not teach or suggest that the mechanically freed fibers may be recycled by suspending discrete pieces of bonded fibrous materials in a liquid and applying mechanical work to the liquid suspension to generate hydraulic pressure and mechanical shear stress conditions sufficient to hydraulically fragment the bonded fibrous materials into fibers and fiber-like components. Importantly, Milding et al. provides no suggestion or motivation for one skilled in the art to combine the teachings thereof with a reference that teaches a method of recycling latex bonded paper broke. Because the cited references provide no motivation or suggestion for one skilled in the art to combine the cited references, a *prima facie* case of obviousness has not been established.

The Office Action asserts that it would have been obvious to have employed fabrics comprising natural fibers, synthetic fibers, or mixtures of the two as the fibrous material of Didwania et al. The Office Action further asserts that one skilled in the art would be motivated to employ such fibrous materials by the teaching of Milding et al. that fabrics comprising both types of fibers can be broken down into recycled fibers. However, such an assertion suggests that one skilled in the art would be motivated to use the recycling process taught by Didwania et al. with any type of "recyclable" fiber. Conversely, such an assertion suggests that one skilled in the art would be motivated to use the starting materials of Milding et al. with any and every known recycling

process. This is contrary to the teachings of Didwania et al., which suggest only that the specific process thereof is useful for recycling latex bonded paper broke. Also, prior to Applicants' disclosure, one skilled in the art would have been unlikely to adopt such a view. As indicated in Applicants' disclosure and as known to one skilled in the art, woven and nonwoven fabrics composed partially or entirely of synthetic or manufactured fibers were known to generate problems for conventional processes focused on recycling natural and/or cellulosic fibers. These types of fabrics were generally difficult or impossible to disperse into individual fibers in a wet process such as a pulping operation. As just one example of possible problems, fiber or filament ropes could form. Such problems were particularly apparent for synthetic fibers joined by thermal or adhesive bonding, and for fibers longer than those typically processed by wet forming operations. Thus, prior to Applicants' disclosure, one skilled in the art would have been dissuaded from using wet processes such as taught by Didwania et al. to recycle the bonded fibrous materials that are taught as recyclable by Milding et al. Because one skilled in the art would be dissuaded rather than motivated to combine these references, the cited references cannot properly be combined, and therefore do not establish a *prima facie* case of obviousness.

Additionally, the combination of the cited references does not teach or suggest all the limitations of independent claim 1 nor the claims that depend therefrom. For example, the combination of Didwania et al. and Milding et al. neither teaches nor suggests hydraulically fragmenting bonded fibrous materials comprising synthetic fibrous material into fibers and fiber-like material. As discussed above, Didwania et al. teaches the breaking of latex bonds and the separation of pulp fibers from one another without separation of latex from the fibers. Didwania et al. does not teach that the fibers are hydraulically fragmented as required by claim 1, only that the latex bonds are broken. Milding et al. refers only to mechanical shredding, and therefore does not correct the deficiency of Didwania et al. Because the cited combination does not teach or suggest all the limitations of independent claim 1 nor the claims that depend therefrom, the cited combination does not establish a *prima facie* case of obviousness.

Furthermore, the combination of the cited references does not teach or suggest all the limitations of independent claim 17 nor the claims that depend therefrom. For example, the combination of Didwania et al. and Milding et al. neither teaches nor suggests recycled synthetic

fibers and fiber-like materials comprising at least one thread element composed of synthetic material having at least one irregular distortion generated by hydraulic fracture of the thread element to separate it from a bonded fibrous material while the bonded fibrous material is suspended in a liquid. As discussed above, Didwania et al. does not teach that the fibers thereof are hydraulically fractured as required by claim 17. Also, Didwania et al. does not teach an irregular distortion generated by the hydraulic fracture of the fibers. Didwania et al. merely teaches the breaking of latex bonds and the separation of pulp fibers from one another without separation of latex from the fibers. However, claim 17 requires a thread element having an irregular distortion generated by hydraulic fracture of the thread element. Milding et al. refers only to mechanical shredding, and therefore does not correct the deficiency of Didwania et al. Because the cited combination does not teach or suggest all the limitations of independent claim 17 nor the claims that depend therefrom, the cited combination does not establish a *prima facie* case of obviousness.

For the reasons stated above, it is respectfully submitted that all of the presently presented claims are in form for allowance, and indication of the same is respectfully requested.

Claims 1-27 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-20 of copending Application No. 10/012,768. An appropriate terminal disclaimer will be provided, if necessary, upon the allowance of claims in the present application. It is respectfully requested that the requirement for such terminal disclaimer be suspended until such time as allowable subject matter is determined.

Claims 1-27 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-20 of copending Application No. 10/012,766. An appropriate terminal disclaimer will be provided, if necessary, upon the allowance of claims in the present application. It is respectfully requested that the requirement for such terminal disclaimer be suspended until such time as allowable subject matter is determined.

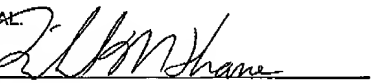
Please charge any prosecutional fees which are due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875.

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION
EXPEDITED PROCEDURE
TC/A.U. 1771

The undersigned may be reached at: 770-597-8626.

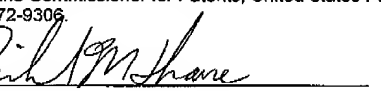
Respectfully submitted,

PALACIO ET AL.

By: 
Richard M. Shane
Registration No.: 50,921

Certificate of Transmission

I, Richard M. Shane, hereby certify that on February 11, 2004 this document is being facsimile transmitted to the Commissioner for Patents, United States Patent and Trademark Office, fax number 703-872-9306.

By: 
Richard M. Shane